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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,605	12/22/2000	Gary C. Starling	DB13NP; 30436.43USU1	1201

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EXAMINER	
HADDAD, MAHER M	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	09/745,605	STARLING ET AL.	
	Examiner	Art Unit	
	Maher M. Haddad	1644	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 8/22/03 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☐ The period for reply expires *6* months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☒ A Notice of Appeal was filed on *22 August 2003*. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☐ The proposed amendment(s) will not be entered because:

   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☒ The a)☒ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *See Continuation Sheet*.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☐ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: *None*.

   Claim(s) objected to: *None*.

   Claim(s) rejected: *1-5 and 53-65*.

   Claim(s) withdrawn from consideration: *6-14, 27-41 and 43-52*.

8. ☐ The proposed drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☐ Other: _____

Continuation of 5. does NOT place the application in condition for allowance because:

1. The 37 C.F.R. § 1.131 declaration submitted on 8/22/03 is defective because it is only signed by Joshua N. Finger. Gary C. Starling fails to sign the instant declaration. Further, as stated previously the signed declaration by Gary C. Starling (submitted on 01/14/03) is defective because it contains alterations that are non-initialed and non-dated.

2. Claim 54 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) The recitation of "hybridizes under stringent conditions" in claim 54 is ambiguous. Although the specification discloses on pages 31-3 general parameters for calculating such conditions, it is unclear which conditions are actually claimed.

Applicant argues that page 31, lines 5 and 10 does not merely set forth general parameters, but rather specific conditions. Applicant further argues that section 112, second paragraph, does not require that each term I a claim be substituted for that which it defines. Rather, it requires that each claim be definite. One skilled in the art may readily look to the present specification for guidance to determin the scope of "stringent conditions" within the context of the present claims in order to determine under which conditions a clear hybridization signal may be obtained.

However, one skilled in the are would not know what conditions are actually claimed.

3. Claims 1-5 and 53-65 stand rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific and/or substantial asserted utility or a well established utility essentially for the same reasons set forth in the previous Office Actions, mailed 6/05/02 and 2/25/03.

Applicant asserts that the specification clearly sets forth both specific and substantial utility for the claimed invention. Applicant mischaracterizes the Examiner position regarding the statement that APEX or an agonist thereof may be administered to treat any numbe of known disorders, including inflammatory cancer and immune disorders. However such statement was presented by applicant arguments filed on 12/09/03.

Applicant submits that APEX may be biological targets for the treatment of disease states associated with such tissues. Applicant argues that the Examiner's reliance on Brenner is again misplaced. Applicant contends that Brenner stands for the proposition that a claimed invention must have a practical utility and that utility is not satisfied merely by showing that a compound yielded belongs to a class of compounds which scientists are investigating for possible uses, which is not the case in the present application. Applicant submits that the present invention is homologous to the CD2 subfamily, which is well-characterized as having utility with respect to leukocyte proliferation, differentiation, migration and activation and diseases associated therewith. Applicant concluded that as such Applicants are not merely investigating the claimed molecules for possible uses, but rather the claimed molecules have the specific, substantial and credible uses set forth above. This is not found persuasive because in the absence of any disclosed relationship between the claimed nucleic acid encoding the polypeptide and any disease or disorder and the lack of any correlation between the claimed polypeptide with any known disease or disorder, any information obtained from homology to CD2 subfamily would only serve as the basis for further research on the observation itself. "Congress intended that no patent be granted on a chemical compound whose sole "utility" consists o its potential role as an object of use-testing" Brenner, 148 USPQ at 696. The disclosure does not present a substantial utility that would support the requirement of 35 U.S.C. §101.

Applicant contends that homology to a molecule with known utility is acceptable for establishing Section 101 utility. Applicant submits tha it is not the law that compounds showing homology to the claimed compounds cannot be classified in a family the members of which may have divergent functions. This is not found persuasive because no single effect of the disclosed APEX-1 is ascribed to the claimed protein. Therefore, the original members of the family were not classified based on their biological activity, but rather, by their common structure and the fact that they are cell surface receptors. Without some common biological activity for the family members, a new member would not have a specific, substantial, or credible utility when relying only on the fact that it has structural similarity to the other family members and is also a cell surface receptor. The members of the family have different biological activities which are related to leukocyte proliferation, differentiation, migration and activation, but there is no evidence that the claimed compounds share any one of those different activities. That is, no activity is known to be common to all members.

4. Claims 1-5 and 53-65 stand also rejected under 35 U.S.C. § 112, first paragraph.
Specifically, since the claimed invention is not supported by either a specific or substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art would not know how to use the claimed invention so that it would operate as intended without undue experimentation for the same reasons set forth in the previous Office Actions mailed 6/05/02 and 2/25/03.

Applicant argues with the same basis as a lack of utility rejection under § 101. Further, applicant argues regarding how to make that conventional amplification and cloning techniques may readily be used to generate APEX-1. This is not found persuasive because the claims fail to meet the enablement requirement for the "how to make and use" prongs of the U.S.C 112, 1st paragraph. The instant fact pattern fails to indicate that a representative number of structurally related APEX-1 nucleic acid molecule is disclosed. The artisan would not know the identity of a reasonable number of representative APEX-1 falling within the scope of the instant claim and consequently would not have known how to make them.

5. Claims 1-5 and 53-65 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for the same reasons set forth in the previous Office Actions, mailed 6/05/02 and 2/25/03.

Applicant submits that a claim to an APEX-1 molecule is clearly described, and nor representative number of species need be provided. Applicant submits that one of skill in the art, using the extensive teachings in the present specification would recognize Applicants to be in possession of such variants and polynucleotides which hybridize to complements of APEX-1. This is found not persuasive because the broad brush discussion of making and screening up to 70% variants and polynucleotides which hybridize to complements of APEX-1 doe not constitute a disclosure of a representative number of members. No such variants were made or shown to have activity. Only the polynucleotide of SEQ ID NO: 1 is disclosed. The specification's general discussion of making and screening for variants constitutes an invitation to experiment by trial and error.

6. Claims 1, 3-5 and 53-57 stand under 35 U.S.C. 102(a) as being anticipated by WO9963088 (Dec 9, 1999) for the same reasons set forth in the previous Office Actions mailed 6/05/02 and 2/25/03.

In response to Applicant's argument that the 37 C.F.R. § 1.131 declaration submitted on 8/22/03 overcome the rejection, Examiner notes that the said declaration is defective and therefore was not considered.

7. Claims 53-55 stand rejected under 35 U.S.C. 102(b) as being anticipated by Hillier et al (GenBand Accetion No. H73135 (1995)) for th same reasons set forth in the previous Office Actions mailed 6/05/02 and 2/25/03.

Applicant argues in conjunction with case law that Hillier is not sufficient prior art reference. Applicant argues that it is well-established that in order for a reference to serve as prior art, it must demonstrate that the claimed invention was in the possession of the public as dictated by the patent statute or case law, including containing a sufficient description of, and an enabling disclosure for, the claimed invention. The reference must contain sufficient technical information to describe the claimed invention to a person of ordinary skill in the art to which the claimed invention pertains and to enable such a person to make and use the claimed subject matter, without requiring undue experimentation. This is found not persuasive because a reference contains an "enabling disclosure" if the public was in possession of the claimed invention before the date of invention. "such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed in invention." In re Donohue, 766 F.2d 531, 226 USPQ 619 (Fed. Cir. 1985). See MPEP 2121.01. Further, Applicant does provide objective evidence to distinguish the prio art from the claimed invention.

Further, Applicant traverses the use of In re Spada because the present invention does not concern a situation where a known compound is being claimed by including functional language to properties which were previously not appreciated. Applicant argues that known compound must have utility, be described and enabled in order to anticipate the claimed invention. Applicant argues that Hillier merely sets forth a sequence of no known utility. Again, Applicant does provide objective evidence to distinguish the prior art teachings from the claimed invention. Therefore, Hillier et al anticipate the claimed invention.

8. Claims 1, 56 and 58 stand rejected under 35 U.S.C. 103(a) as being unpatentable over WO996308 in view of Adams el al (biochemistry of the nucleic acids))) for the same reasons set forth in the previous Office Actions mailed 6/05/02 and 2/25/03.

In response to Applicant's argument that the 37 C.F.R. § 1.131 declaration submitted on 8/22/03 overcome the rejection, Examiner notes that the said declaration is defective and therefore was not considered.

9. Claims 59-60 stand rejected under 35 U.S.C. 103(a) as being unpatentable over WO996308 in view of U.S. Patent No. 6,134,002)) fo the same reasons set forth in the previous Office Actions mailed 6/05/02 and 2/25/03.

In response to Applicant's argument that the 37 C.F.R. § 1.131 declaration submitted on 8/22/03 overcome the rejection, Examiner notes that the said declaration is defective and therefore was not considered.

10. Claims 61-64 and 65 stand rejected under 35 U.S.C. 103(a) as being unpatentable over WO996308 in view of Darnell et al for the same reasons set forth in the previous Office Actions mailed 6/05/02 and 2/25/03.

In response to Applicant's argument that the 37 C.F.R. § 1.131 declaration submitted on 8/22/03 overcome the rejection, Examiner notes that the said declaration is defective and therefore was not considered..

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